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PATENT APPLICATION

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Dan S. BLOOMBERG et al.

Group Art Unit: 2623

Application No.: 09/487,583

Examiner: J. Wu

Filed: January 19, 2000

Docket No.: 104324

For: METHODS FOR GENERATING ANTI-ALIASED TEXT AND LINE GRAPHICS IN
COMPRESSED DOCUMENT IMAGES

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REPLY BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following remarks are directed to the new points of argument raised in the
Examiner's Answer dated March 24, 2004.

REMARKS

Examiner's Answer Argument 11.A.1

Starting on page 7, the Examiner's Answer asserts that "Jozefowski is clearly read on the claimed features 'exterior' and 'interior' boundary pixels because as the Appellant defines that interior boundary pixels is OFF pixels and exterior boundary pixels is ON pixels (specification, page 14, lines 10-12), Jozefowski defines boundary pixels as four different grays or hatches (Figs. 1B, 2B-2C)." Appellants submit that the four different hatches do not correspond to different "grays" because the degree of hatching is not related to the pixel value.

According to Jozefowski on page 20, "the Figure 2A line 11 'lights' the subpixels (as 23) it actually passes through, and even added resolution twice that of Figure 1A (2 blocks per centimetre instead of 1) the Figure 2A line is still stepped and jagged...where a pixel contains four lit sub-pixels, it is filled in black (as 23), where it contains two or one it is filled in horizontally hatched or diagonally hatched (as 25 and 26)."

Thus, the degree of hatching in Jozefowski corresponds only to the number of subpixels through which a line passes, not to the pixel values of the pixels. Jozefowski even admits on page 18, that "this hatching is purely diagrammatic, and is intended to represent the sort of effect one might obtain by making the boundary pixels - the blocks near the real line - take on a 'mixture' of the line pixel characteristics and the underlying background pixel characteristics."

In contrast, according to the specification on page 14, the values of the boundary pixels as being interior or exterior pixels is determined by the high resolution binary data being either ON (1) or OFF (0). The high resolution binary data is derived from the pixel value by applying a threshold level to the pixel value. Thus, the separation of boundary

pixels into interior and exterior pixels, as recited in claim 1, is based on the pixel value, and therefore is fundamentally different from the hatchings of Jozefowski.

Furthermore, the system of Jozefowski views pixels as a one dimensional array, draws images using the one dimensional array in scan line order (see page 21, lines 29-31), and hence has no need to separate, calculate, or determine if pixels are boundary pixels, or if pixels are interior/exterior boundary pixels, because of the sequential many-to-one manner in which Jozefowski translates high resolution frames into low resolution frames.

Jozefowski takes a predetermined number of sequential pixel values in the frame buffer, uses the individual intensity values of the predetermined number of consecutive pixels to create a single low resolution pixel value, and then moves on to the next predetermined number of sequential pixel values in the frame buffer to generate the next low resolution pixel, not taking into account whether or not the pixels retrieved from the frame buffer are boundary pixels or non-boundary pixels. Therefore, Jozefowski has no need to separate the pixels into boundary pixels and non-boundary pixels, let alone to separate boundary pixels into interior boundary pixels and exterior boundary pixels.

Accordingly, Jozefowski does not disclose or suggest an encoder that "separates the boundary pixels into interior boundary pixels and exterior boundary pixels," as recited in claim 1, or "separating the pixels into boundary pixels and non-boundary pixels," as recited in claim 30.

Examiner's Answer Argument 11.A.2

Starting on page 9, the Examiner's Answer presents various dictionary definitions of the words "interior" and "exterior," and then asserts that the classification of boundary pixels fits these definitions. Appellants respectfully submit that the Examiner's logic is circular.

The Examiner is apparently asserting that "the degree of hatching matching the closeness to the line" is synonymous with "external" or "outer" as given by the first dictionary

definition of exterior. Thus, based on the Examiner's interpretation of closeness to the line being synonymous with "external" or "outer," the Examiner asserts that the classification of boundary pixels fits the definition of "exterior" according to the dictionary definition.

Appellants disagree that the term "matching the closeness to the line" is synonymous with "external" or "outer," as a line in and of itself defines no "external" or "outer." Accordingly, the hatchings of Jozefowski are not at all the same as an "exterior" or "interior" classification of boundary pixels, as recited in claim 1.

Similarly, the Examiner's Answer on page 10 attributes the adjective "inland" to the pixels indicated with code 4 in Figure 2C, and then asserts that based on the pixels identified as "inland," the classification fits the definition found in the dictionary of "interior" as "inland." However, Appellants submit that the term "inland" is never used in Jozefowski to describe the pixels hatched with code 4 in Figure 2C.

The Examiner's argument then further asserts on page 10 that Jozefowski's four different gray hatchings read on the classifications "interior" and "exterior" according to the definitions of interior and exterior in the specification. Appellants respectfully disagree with this assertion.

The specification on page 14 defines "exterior" and "interior" as "boundary pixels that are ON and OFF, respectively, in the text or lineart mask." The ON and OFF refers to the value of the binary pixel data.

As described earlier, Jozefowski determines the hatching level based on a totally different set of criteria. In Jozefowski, the hatchings of the pixel are based on whether or not the line passes through one, two, three or four subpixels of the pixel. Jozefowski does not consider the pixel value when determining the hatching to be applied, and therefore the four different hatches of Jozefowski cannot correspond to the interior or exterior designation according to claim 1.

Examiner's Answer Argument 11.A.3

In the Examiner's Answer beginning on page 12, the Examiner asserts that the statement that the "Examiner strongly disagrees with Applicants' argument that Jozefowski cannot identify/separate interior/exterior boundary pixels in one-dimensional arrays," is not the same as asserting that Jozefowski can identify/separate interior/exterior boundary and one-dimensional array pixels. Appellants are at a loss to follow the Examiner's logic in this regard. However, Appellants will not comment further on this argument for the sake of time.

Conclusion

In view of the foregoing, Appellants submit that the final rejections of record are improper and the Honorable Board is requested to reverse those rejections and return the application to the Examiner to pass this case to issue.

Respectfully submitted,



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